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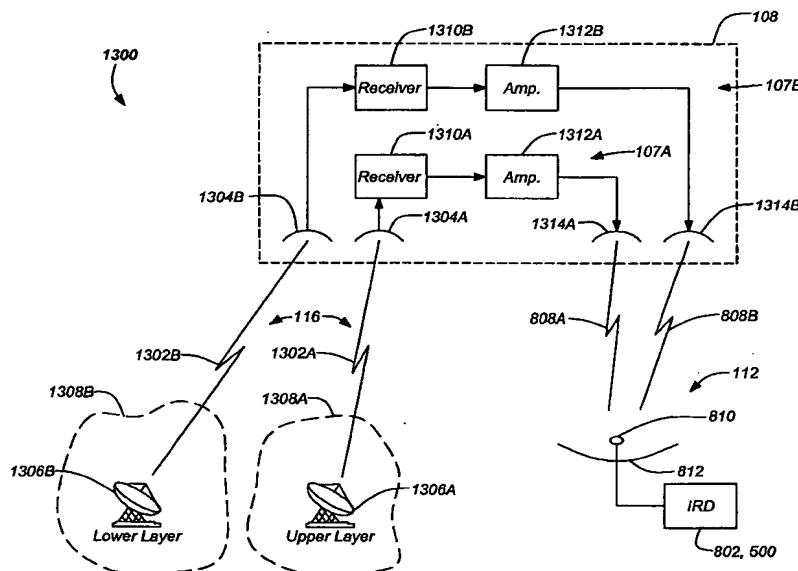
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**(54) Title:** FEEDER LINK CONFIGURATIONS TO SUPPORT LAYERED MODULATION FOR DIGITAL SIGNALS



**(57) Abstract:** Systems and methods are disclosed for feeder link configurations to layered modulation. One feeder link system employs feeder link spot beam to antennas in distinct coverage areas to enable frequency reuse. Another system employs narrow beam width feeder link antenna to illuminate individual satellites also enabling frequency reuse. Yet another system uses layered modulation in the feeder link. Another feeder link system employs a higher order synchronous modulation for the satellite feeder link than is used in the layered modulation downlink signals.